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ABSTRACT

A study was conducted to ascertain whether the use of behavioral objectives in the conduct of a child psychology course would be more effective as an instructional delivery system than the traditional lecture-centered, note-taking approach. An experimental group received instruction in child psychology by means of the behavioral objectives approach while two control classes received traditional instruction in the same subject. Students were not randomly assigned to any of the three groups; the experimental and one of the control groups were similarly composed of traditional college sophomores, while the other control group consisted principally of mature upper-middle class females. All students were pre- and post-tested and tested on each of four course units. Additionally, an analysis of student persistence was made for each of the three study groups. Results of the study showed: (1) students in the experimental group out-performed students in the control groups on both the post-test and the unit examinations; (2) more students persisted to the end of the course in the experimental group than in the control groups; and (3) students in the experimental class rated their instructor higher than did students in the control classes. It was suggested that the study be replicated to control for the variable of instructor personality in influencing such ratings. Tabular data are presented throughout the report relating to student performance on tests. (JDS)

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THE BEHAVIORAL OBJECTIVES DELIVERY SYSTEM:
DEVELOPMENT AND EVALUATIVE COMPARISON
TO THE TRADITIONAL LECTURE METHOD
IN CHILD PSYCHOLOGY

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ABSTRACT

This research study was undertaken in the fall of 1975 at William Rainey Harper Community College, Palatine, Illinois. The study was undertaken to respond to student criticism regarding the lack of use of behavioral objectives in Child Psychology and to ascertain if the use of behavioral objectives would be a more effective delivery system than the traditional lecture, note-taking method. Many of the students had taken introductory psychology classes which had used behavioral objectives and the students were very pleased with that delivery system.

The research project was divided into two major phases, the first of which was to create and design an entire sixteen week behavioral objectives package that could be used in Child Psychology. The second phase was to set up a comparison between the students using the newly designed behavioral objectives and the students using the traditional lecture approach, to determine which of the two delivery systems would provide the greatest student achievement.

The Experimental Class used the behavioral objectives system and the two Control Classes used the lecture method. The students selected these classes,

having no prior knowledge that they would be participating in the project. The Experimental Class was composed primarily of the traditional college sophomore, eighteen to twenty years old, daytime student, middle class, suburban white. There were forty-four students enrolled. The Control Class #1, composed of forty predominantly middle aged married, suburban, upper middle class white females, met in the evening. The class met at a satellite location off campus. The Control Class #2 was composed of thirty-two heterogeneous white suburban college sophomore students. The class met Saturdays on Harper's campus.

The three classes took pre- and post-tests to ascertain if there was any significant difference in the factual knowledge among the three classes prior to instruction and immediately after instruction. All three classes took four unit tests, covering all of the behavioral objectives design material for the entire Child Psychology course. The differences on these tests were analyzed through the use of the t-Test. The t-Test analysis was also used to determine if significant differences existed between the four unit tests taken by the three classes. A chi-square analysis was conducted to determine if a significant difference existed in retention rates

between the Experimental and Control Classes #1 and #2.

The students of the three classes evaluated both the instructors and the delivery systems through the Illinois Course Evaluation Questionnaire. Separate ratings were obtained for the method of instruction and the evaluation of the teaching effectiveness of the individual instructors.

The instructor of the Control Classes preferred to teach by the lecture approach and this was the method he had decided would be most suitable for college instruction. Different instructors were chosen in order to keep the preferences of one instructor from entering the research design, if he taught both methods. As indicated earlier, both instructors preferred teaching in their own styles and both instructors were aware that a course evaluation would be done by the students.

The data suggest that the students in the Experimental Class out-performed the students in the two Control Classes on the pre- and post-test as well as on the four unit examinations throughout the semester.

The retention rates, the number and percentage of students who remain in the class, showed that more students remained in the Experimental Class until the completion of the semester - more than in the two Control Classes.

The C.E.Q. (University of Illinois Course Evaluation Questionnaire) indicated that the students in the Experimental class rated their instructor higher than did the students in the two Control Classes. The study should be replicated in order to rule out the independent variable of instructor personality affecting the ratings.

The Behavioral Objectives Delivery System:
Development and Evaluative Comparison
To the Traditional Lecture Method
In Child Psychology

By

Michael Vincent Ostrowski

May, 1977

The lack of a behavioral objectives approach in the Child Psychology courses at William Rainey Harper College, Palatine, Illinois, has been a problem. The feedback from the students centered around the issue of a lack of clearly defined behavioral objectives for the entire course, a lack which tended to leave them confused regarding the goals which they had been expected to achieve in order to successfully negotiate the course. The negative comments were coming from former students who had previously taken the Introduction to Psychology course, taught by behavioral objectives.

They had praised the behavioral objectives delivery system that was used by the majority of the instructors in that area.

Students who had taken the Child Psychology course complained that the teachers were frequently not adequately organized; they rambled frequently from assigned topics; the exam questions were often unrelated to the lecture or discussion material; and lecture and text materials were contradictory and went unclarified prior to examinations. The Dean of the Transfer Division had also distributed negative student letters complaining about lack of clear objectives in the course.

It appeared that the traditional lecture, note-taking delivery system for the "new students" of the community college was inappropriate and in part contributed to lower scores on unit tests and ultimately, to a higher dropout rate. To resolve this problem, sixteen units of behavioral objectives, each having twenty-five objectives, to cover the entire course supplemented with the text, Child Psychology, Behavior and Development by Johnson and Medinnus (1974) were designed. These behavioral objectives were used in one class, the Experimental Class, that was taught in the fall of 1975. Two other classes using the lecture, note-taking system and the Johnson and Medinnus text acted as the controls. The

sixteen units corresponded to a sixteen week semester, and the rate of instruction was a unit or chapter per week.

The students in the three classes were given a pre- and post-test and four unit exams, each one covering four chapters of the text and the behavioral objectives. The Experimental Class test results were compared to the Control Classes #1 and #2, using the statistical method of Student's t-Test to ascertain if there were any significant difference in performance between the classes on their examinations. All t-Test analyses were conducted at the .05 level of significance.

The pre-test of ability was administered on the first day of class in August, 1975 and indicated the following: the t-Test analysis between the Experimental Class and the Control Class #1 showed that there was a significant difference in knowledge of factual material pertaining to child development, in favor of the Control Class #1. The second t-Test was conducted between the Experimental Class and Control Class #2 and showed that there was no significant difference between the Experimental Class and Control Class #2, on the amount of factual material that the students possessed in the two classes.

TABLE 1

PRE-TEST RESULTS
STUDENT SCORES PRIOR TO INSTRUCTION

	Experimental Class	Control Class #1	Control Class #2
Mean	39.7	43.5	42.88
S.D.	7.2	7.2	11.7
Median	40	45	45
Mode	40, 47*	42, 45*	45
Range	26	35	55
N	44	34	27

*Bi-modal scores.

Analysis of the Pre-Test Results

The first t-Test analysis between the Experimental Class and the Control Class #1 for the pre-test indicated a t value of 2.28 (76 d.f.).

According to the tables (Edwards, 1964) at the .05 level of significance, any t value greater than 1.96 was necessary in order to show a significant difference in the performance between these two classes. It may be concluded that there is a significant difference in the performance between the Experimental Class and Control Class #1 in favor of Control Class #1 (see Table 1).

One possible explanation for the higher score in the Monday evening Control Class was the fact that over three quarters of the students of that class were mature, adult females. Most of these women had children of their own, and had done rather extensive reading in child development. There were three males in the class. On the other hand, the Tuesday Experimental Class was composed of typical college sophomores, for the most part, approximately eighteen to twenty years of age, single and without children.

The second t-Test analysis was conducted between the Experimental Class and Control Class #2. This produced a t value of 1.40 (69 d.f.). This value of 1.40 was below the .05 level. To show a significant difference between the two classes, the level should have been 1.96 or greater. It may be concluded that there was no difference between the Experimental Class and Control Class #2. A possible explanation for this was that the composition of the two classes in terms of student age and sex distribution was closer to the adolescent, typical sophomore community college student profile.

At the completion of the course, the post-test was administered to three classes with the following results: the first comparison was made between the Experimental Class and Control Class #1 and showed that

the Experimental Class performed significantly better on the post-test than Control Class #1 .

The second t-Test comparison was made between the Experimental Class and Control Class #2, and showed again that the Experimental Class performed significantly better on the post-test than did Control Class #2.

TABLE 2

UNIT TEST 1
STUDENT SCORES

	Experimental Class	Control Class #1	Control Class #2
Mean	87.97	66.38	66.32
S.D.	8.77	13.21	13.33
Median	90	69	68
Mode	92	77	71, 70, 67
Range	41	51	50
N	41	34	25

Analysis of the First Unit Test

Results

The first comparison between the Experimental Class and Control Class #1 showed a t value of 8.17 which was significant at the $P \leq .01$ level of significance (see Table 2). According to the tables (Edwards, 1964), any

t score over 1.96 would have been significant. In the second comparison between the Experimental Class and Control Class #2 for the first unit test, the t value was 7.23 (64 d.f.). This, again, was significant at the $P \leq .01$ level of significance. The results show that after the first examination the Experimental Class, using the behavioral objectives, did perform significantly better than either one of the two Control Classes that were being taught by the traditional lecture, note-taking system.

TABLE 3

UNIT TEST 2
STUDENT SCORES

	Experimental Class	Control Class #1	Control Class #2
Mean	87.27	64.58	67.56
S.D.	8.13	14.19	13.51
Median	90	67	69
Mode	90,92	66,68.77	58
Range	33	59	44
N	43	31	23

Analysis of the Second Unit Test

Results

In the second comparison between the Experimental Class and the Control Class #2, the t value was 7.40 (64 d.f.). This was significant at the $P < .05$ level. In conclusion, analyses of the second test results between the Experimental Class and Control Classes #1 and #2 show that the students have consistently performed better by using the behavioral objectives than did the students in either of the two Control Classes, taught by the traditional lecture method.

TABLE 4
UNIT TEST 3
STUDENT SCORES

	Experimental Class	Control Class #1	Control Class #2
Mean	93.36	66.82	64.31
S.D.	5.38	12.04	14.75
Median	94	70	64
Mode	93	77	60
Range	25	45	54
N	33	28	22

Analysis of the Third Unit Test

Results

There is a significant difference between the Experimental Class and the Control Class #1, at the $P < .001$ level. One may conclude that the differences are significant.

In the comparison between the Experimental Class and Control Class #2, the t value was 10.36 (53 d.f.). The probability of t being greater than or equal to 10.36 (53 d.f.) was $P < .001$, again significant.

The students in the Experimental Class obtained significantly higher mean and mode scores than students in Control Classes #1 and #2.

TABLE 5

UNIT TEST 4

STUDENT SCORES

	Experimental Class	Control Class #1	Control Class #2
Mean	85.4	70.4	73.4762
S.D.	8.54	11.8	13.4262
Median	88	70	74
Mode	88	69, 70, 73	64, 74, 75, 85
Range	40	47	53
N	41	31	21

Analysis of the Fourth Unit Test
Results

The fourth unit examination, covering Chapters 13-16, was administered in late December. The first t analysis between the Experimental Class and the Control Class #1 indicated a t value of 6.20 (70 d.f.). This indicated the difference between the Experimental Class and the Control Class #1 was significant at the $P \leq .001$ level (see Table 5). The second t test analysis was conducted between the Experimental Class and Control Class #2. The t value between these two classes was 4.27 (60 d.f.). This indicated a high degree of significance at the $P \leq .001$ level. Again, one may conclude that the Experimental Class performed significantly better on the fourth examination than the students in Control Class #1 and Control Class #2.

The significant difference in retention rates was established through a chi-square analysis. In the Experimental Class, 44 students started the class and 41 completed. In Control Class #1, 40 started the class and 29 completed it. In Control Class #2, 32 students started the class and only 21 completed the post test. In other words, 93% of the students in the Experimental Class completed the course, whereas only 72% completed it in Control Class #1, and approximately 65% of the students in Control Class #2 completed the course.

TABLE 6
CHI-SQUARE ANALYSIS TO TEST
FOR SIGNIFICANCE OF RETENTION RATES

Retention	Exp.	C ₁	C ₂	
Yes	41	34.52	29	31.38
No	3	9.48	11	8.62
Total Students	44	40	32	116

$$X^2_R = 7.38$$

$$\text{Calculated } X^2 = 9.61$$

$$\text{Reject if } X^2 \geq X^2_R$$

Analysis of Chi-Square for Retention Rates

Subjecting the retention rates to the statistics of chi-square analysis for significance, it can be established that the number of students who remained in the Experimental Class was significantly higher than the number of students who remained in either one of the Control Classes. The formula that was used for the chi-square analysis was

$$X^2 = \frac{(f_o - f_e)^2}{f_e}$$

The calculated

chi-square was 9.61 which was significantly higher than that required of 7.38 (2 d.f., Tate, 1965). This indicates significance at the .05 level.

TABLE 7
POST-TEST RESULTS
STUDENT SCORES AFTER INSTRUCTION

	Experimental Class	Control Class #1	Control Class #2
Mean	71.9	60.58	63.09
S.D.	18.02	12.86	10.29
Median	76	62	63
Mode	74, 76, 82, 90*	59, 61, 63, 67, 68*	63
Range	70	47	62
N	41	29	21

*In this distribution there were several scores that had the same frequency.

Analysis of the Post-Test Results

At the completion of the course, after the fourth quarterly examination was conducted, and on the same day, students in all three classes were required to take the post-test evaluation. This was the examination which the students had taken prior to having any type of instruction at all in the course. The students were told

that their grades would not be affected by the outcomes on the tests (both pre-, and post-tests), and they would not receive any points toward their final grade in the course.

The first post-test t analysis comparison was made between the Experimental Class and Control Class #1 (see Table 7). A t value was 2.90 (68 d.f.) was obtained. This was significant at the .01 level of significance. Thus, the Experimental Class scored higher than the Control Class #1 on the post-test, even though the Control Class #1 began the semester with a significantly higher score on the pre-test. The second post-test t comparison was made between the Experimental Class and Control Class #2. The t value was 1.93 (60 d.f.). This was significant at the .05 level. Thus, the Experimental Class again scored higher on the post-test than Control Class #2.

The mean and mode scores in the Experimental Class were significantly higher than the scores of Control Classes #1 and #2. The higher mean and mode scores of the Experimental Class were obtained even though the standard deviation and range scores in the Experimental Class indicated greater variance among the students. It was later ascertained that some students did not try

to do as well as they might have, knowing that the post-test score did not affect their grades.

The mean score for the Experimental Class on the pre-test was 39.7 and on the post-test it was 71.9, thus gaining an average of 32.2 points throughout the course. The mean score for the Control Class #1 on the pre-test was 43.5, and the mean score on the post-test was 60.58, or a gain of 17.08 points throughout the entire semester. Thus, the Experimental Class scored almost twice as well as Control Class #1.

The mean score for Control Class #2 on the pre-test was 42.8, and the mean score for the class on the post-test was 63.0, or a gain of 21 points. This, in comparison to the 32.2 point gain of the Experimental Class, shows a difference in favor of the Experimental Class.

In conclusion, even though the Experimental Class was at somewhat of a handicap initially; that is, the Control Class #1 performed somewhat better than the Experimental Class on the pre-test, the Experimental Class completed the course showing a significant gain over both the Control Classes.

The results of this study tend to indicate that the behavioral objectives delivery system produces superior

results over the traditional lecture, note-taking delivery system.

Additionally, attitudes of the students towards the teacher of the courses may be affected by the behavioral objectives delivery system, as indicated by the higher student ratings for the instructor in the Experimental Class over the student ratings for the instructor in the Control Class, as measured by the University of Illinois Course Evaluation Questionnaire.

TABLE 8
MERMAC TEST DATA, C.E.Q. #73, INSTRUCTOR RATING
REPORTED IN PERCENTAGES: FALL, 1975

	Experimental	Control #1	Control #2
Excellent	0.83	0.07	0.00
Very Good	0.14	0.11	0.43
Good	0.00	0.22	0.33
Fair	0.03	0.33	0.24
Poor	0.00	0.19	0.00
Very Poor	0.00	0.07	0.00
Mean	5.76*	3.33*	4.19*
S.D.	.64	1.33	.81
N	29	27	21

*A maximum score is 6.00.

Analysis of Student Ratings of Instructors
by Percentage

When comparing the student ratings of the instructor in the two control classes, the mean rating for the instructor in the Control Class #1 was 3.33 whereas the mean student rating for the instructor in the Control Class #2 was 4.19. The instructor who taught the Experimental Class received a mean over-all rating of 5.76. Thus, there is a difference in the rating, with a strong preference in favor of the instructor teaching the Experimental Class. The results appear to support the correlation between scores students receive on unit tests and their ratings of the course instructors. There is a greater positive relationship between scores earned by students in the Experimental Class on unit tests and pre- and post-tests and students' evaluations of the effectiveness of their instructor.

TABLE 9
ILLINOIS COURSE EVALUATION QUESTIONNAIRE
INSTRUCTOR RATING RESULTS: FALL, 1975

	Experimental Instructor N=29 Subscales	Control #1 Instructor N=27 Subscales	Control #2 Instructor N=21 Subscales
General Attitude	3.74	2.51	3.00

TABLE 9
(CONTINUED)

Method	3.66	1.87	2.44
Content	3.68	2.36	2.75
Interest	3.62	2.48	2.74
Instructor, General	3.74	2.20	2.64
Instructor, Specific	3.73	2.77	3.04
Total	3.69*	2.40*	2.79*

*Out of a possible 4.0.

The instructor of the Experimental Class received an over-all student evaluation of 3.69 (out of a possible 4.0) whereas the instructor of Control Classes #1 and #2 received over-all ratings of 2.40 and 2.79 respectively.

This study should be replicated in order to rule out the possibilities of differences being the result of personality factors of the two instructors. It would be advisable to obtain two instructors whose past histories showed similar or equal C.E.Q. student ratings so as to be sure that neither instructor had an advantage over the other at the beginning of the course.

TABLE 10
ILLINOIS COURSE EVALUATION QUESTIONNAIRE
METHODOLOGY SCORES*

TABLE 10
(CONTINUED)

Question	Experimental	Control #1	Control #2
1. I would like to take another course taught this way.	.90	.04	.00
3. I would have preferred another method of teaching in this course.	.10	.93	.67
8. I learned more when other teaching methods are used.	.10	.85	.72
12. I would rather not take another course from this instructor.	.06	.60	.33
19. I think that the course was taught quite well.	.97	.30	.62

⁴⁵ Percentages of students reporting.

Analysis of Methodology Responses

There appears to be a student preference towards the use of the behavioral objectives delivery system, as indicated in the student responses to the Questionnaire item "Method" (see Table 9). The Experimental Class received a 3.66 (out of a possible 4.0) whereas the two Control Classes received ratings for the method of presentation of 2.44 and 1.87. It is interesting that the score of 1.87 was the lowest rating given by the students and this is related to the method of presentation. The students even rated the content lower in the two control

classes, though the content and texts for the control and experimental classes were the same.

There was also a considerable difference in the ratings for the interest the instructor showed in his teaching (see Table 9, p. 17); again the ratings were in favor of the Experimental Class.

Item 12 might indicate a stronger student liking for the Experimental Class instructor over the Control Classes #1 and #2 instructor. This possible student like or dislike of the instructors may create a halo effect that tends to contaminate the students' perceptions of other aspects (such as methodology) of the course. The students' feelings may be so strong that their judgment of other aspects of the course may become tainted, making their unbiased evaluation impossible.

According to Roueche (1975) the students will tend to show a liking for the instructor who allows them to feel that they have control over their own success in the course. It is possible, however, that the use of behavioral objectives in the Experimental Class thus conveyed that feeling to the students. This latter observation is not to suggest a cause and effect relationship, but merely to suggest that a positive relationship between attitudes toward methodology and instructor exists.

Conclusions

The data from the Illinois Course Evaluation Questionnaire suggest that students favor the behavioral objectives delivery system.

The results of the Illinois Course Evaluation Questionnaire indicate that the students in the Experimental Class rated the use of behavioral objectives highly. They also stated that they would like to have additional courses taught in the behavioral objectives fashion. The results of the questionnaire also indicated that students in the Control Classes disliked the lecture delivery system and would not like to take additional courses taught in this manner.

Hypothesis A -- There will be no significant difference between the traditional lecture, note-taking classes and the behavioral objectives class on the mean scores of the unit examinations in Child Psychology, is rejected. The data indicate that the students using the traditional lecture, note-taking approach did not score equally as high as students using behavioral objectives in any one of the four unit examinations. The students in the traditional lecture, in fact, received significantly lower mean scores on all four unit examina-

tions than did the students in the Experimental Class.

Hypothesis B -- There will be no significant difference between the traditional lecture, note-taking classes and the behavioral objectives class on the retention rate, is rejected. The percentage of students in the traditional lecture class completing the course was lower than that of students in the behavioral objectives class. The behavioral objectives class had 94% of the students complete the course, whereas the traditional lecture, note-taking classes had 72% (Control Class #1), and 65% (Control Class #2). The chi-square analysis indicated a significant difference in the retention rates between the Experimental Class and the Control Classes in favor of the Experimental Class. The significance was established at the .05 level.

Hypothesis C -- There will be no significant difference between the traditional lecture, note-taking classes and the behavioral objectives class on the mean scores of pre- and post-tests, is rejected. The students in the traditional lecture classes did not show as high a gain as the students in the Experimental Class.

It may be concluded from the statistical analyses that the behavioral objectives delivery system may be more effective in producing better examination performance

and retention of material over the course, than the traditional lecture, note-taking method.

If one concludes that one of the main functions of a community college is to salvage and retain students, then the behavioral objectives delivery system would appear to better perform these functions than the traditional lecture, note-taking system, a system which appears to produce more lower scores and student dissatisfaction.

Implications

The importance of these findings and the implications are, of course, that if the desire for students to actually retain more information and get more from each class is a proper goal, it would be advisable to use the behavioral objectives delivery system, rather than the traditional lecture, note-taking system when dealing with a community college's students.

It appears that students who are taught by a behavioral objectives approach tend to obtain higher scores on unit examinations. These students appear also to have positive feelings towards the course and the instructor, and their retention is better.

The implication for the Psychology Department and the Social Science Division is that if students are

to be attracted to the disciplines in the Social Science Division in a time of shrinking student enrollment, the departmental and divisional teaching practices should consider the use of behavioral objectives in order to better meet the needs of community college students. Departments and divisions quickly acquire reputations through the students' informal communication system. The students communicate among themselves regarding which areas to avoid, or which courses are most enjoyable, beneficial and equitable in terms of the students' ability to negotiate them. It would appear that this study suggests one direction the department and division may move in order to maintain high student enrollments and high success rates.

The inherent problems in this study included the selection of two different instructors. Consequently the personality differences were not controlled. The condition which may have occurred was that the instructor in the Experimental Class may have been more enthusiastic, for example, and thus created another independent variable that may have had an effect on the dependent variable -- student achievement. It was decided, however, that the approach of using two instructors would create less bias than having all classes taught by the same instructor. It is also conceivable that the instructor in the Experi-

mental class had greater charisma than the instructor of the Control Classes. This might have produced a halo effect that sufficiently biased the students in their judgment in the C.E.Q. evaluations. The Experimental Class instructor might have had a greater ability to be more enthusiastic, supportive and encouraging. He might have been better able to inspire confidence in students regarding their course success. These might have been other independent variables that were not controlled.

The writer is aware that the significant independent variable of teacher personality was not controlled for and consequently may be an intervening variable that, in part, brought about the superior achievement of the students in the Experimental Class. Knowing that the personality of the instructors may have had an effect on the results of this study, the writer would still recommend the use of behavioral objectives. The behavioral objectives method 1) helps to determine specific material which will be taught 2) aids the instructor who tends to wander and become distracted while teaching the material of the course 3) allows an instructor to move in a time frame that assures the completion of the course material by the end of the semester 4) prevents a small percentage

of students from monopolizing time with personal and often irrelevant discussion 5) is teachable, and the results of teaching through behavioral objectives can be measured.

In a replication study, it would be imperative to select two instructors whose ratings on the Illinois Course Evaluation Questionnaire were equal or similar on past performance. The instructor's past course evaluations appear to be a factor that should definitely be controlled in a follow-up study.

Certainly another consideration for the future would be to attempt to schedule the Experimental and Control Classes within similar time frames during the daytime. The importance of scheduling the Control and Experimental Classes on the same days and same times is to ensure a more homogeneous student population in terms of age, sex and background as well as full time enrollment status. These independent variables may have biased the samples chosen for this study and thus the samples may not be truly equal to each other.

In the future, a follow-up study could be made of these students to see how many of the students in the three classes enrolled in additional psychology classes of an advanced nature. This enrollment may be construed as an indication of the students' pleasure and satisfaction with the course and the motivation for their

taking more courses in this particular discipline.

Another suggestion for future research in this area that would address itself to the possible contamination due to teacher personality would be to attempt to hold the variable of teacher personality constant. Although it is true that a personable, organized, dynamic, inspiring teacher may not need to use behavioral objectives to do a creditable job, a future study should evaluate the effects of behavioral objectives methodology with instructors who do not possess the above characteristics. That future study should involve faculty members who have consistently received lower than average ratings on the C.E.Q. or similar instrument. One approach would be to have this select group of instructors teach for a semester using their traditional techniques and then to compare that teaching to their teaching in a second semester when they use a behavioral objectives approach.

Factors which would need examination in the two semester comparison could be 1) changes in student C.E.Q. evaluations 2) changes in student scores on unit tests 3) changes in student retention rates 4) comparison of student achievement, as measured by pre-, post-test assessments for both semesters. With this select group of instructors, the personality advantages would be held more constant.

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